NORLITE, LLC

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November 17, 2014

Ms. Nancy Baker
Deputy Regional Permit Administrator
New York State Department of Environmental Conservation
Region 4
1130 North Westcott Road
Schenectady, NY 12306-2014 RETURN RECEIPT REQUESTED VIA EMAIL

Mr. Robert Buettner
Air Compliance Branch
United States Environmental Protection Agency
Region 2
290 Broadway
New York, NY 10007-1866 RETURN RECEIPT REQUESTED VIA EMAIL

Re: Norlite Corporation-MACT Excessive Exceedances Report
Kiln 1: 10/24/14 – 11/14/14
Kiln 2: 10/24/14 – 11/14/14

Dear Sir/Madam:

In accordance with 40 CFR 63.1206(c)(3)(vi), the Norlite, LLC (Norlite) is submitting an "Excessive Exceedance Report" for the timeframe of 10/24/14 thru 11/14/14. The attached document explains each of the "malfunctions" for Kilns One and Two.

The results of the investigation concluded a majority of the waste feed cutoffs were a result of the limits associated with the stack gas flow monitor. The Kiln 1 Optical Flow Sensor has been experiencing a film that has been developing on the lenses, causing a loss of signal and ultimately the unit to fault. The unit remains faulted until the lenses are cleaned. Norlite suspects the colder outside ambient air temperature may be causing a chemical precipitation to occur on the lenses. Samples have been taken of the film to try to identify what it is. Once identification has been made then a solution can be determined from there.

The Kiln 2 unit has had several issues which have affected the stack gas probe. After the stack gas probe switch, high stack gas flow rate reading started occurring a couple days later. Kiln 2 was shutdown again on November 03, 2014 for scrubber inspection and maintenance. The inspection found the MMV of the Venturi Scrubber was partially plugged with soda ash solids and baghouse dust. The MMV and the rest of the scrubber were cleaned and the kiln started back up. After only a couple of days of operation, the kiln started experiencing high stack gas readings and cutoffs. The Kiln was shutdown again on November 10, 2014 for inspection and repairs. The inspection found that several bags had blown in the baghouse which was causing high suspended solids in the scrubber system which was affecting the stack gas probe. The bags were replaced and the scrubber cleaned out again.

Norlite has been working to resolve stack gas span cutoffs in general for almost two years. Norlite has been working with the DEC to install a new optical flow technology to monitor stack gas flow rate. A test unit has been installed on Kiln 1 and RATA tested on November 26, 2013. The final RATA Testing report was submitted along with a proposal for implementing official use of the unit to the DEC on December 24, 2013. Norlite prepared and submitted a permit modification request to the Department on March 25, 2014 and received approval for the permit modification on April 16, 2014. On April 18, 2014 at 1:00 PM, Norlite placed the Optical Flow Sensor for Kiln 1 into certified operation. Since April 18th, there have been no stack gas flow rate cutoffs which have occurred on Kiln 1. The previous stack gas flow rate measuring technology has remained in place for data collection but is no

longer part of the AWFCO system. Since receiving approval for the Kiln 1 permit modification, Norlite has ordered and installed an optical flow sensor on Kiln 2. On May 27th, Norlite conducted preliminary testing and data collection on the Kiln 2 unit to further help setup and troubleshooting. Norlite is conducting additional troubleshooting of the Kiln 2 unit by move its location in the ductwork to see if operation improves. The step after that will be to install a new unit to see if that unit experiences the same operational issues. Norlite still feels it is very possible to have an optical flow sensor in certified operation on Kiln 2 by the end of 2014. Once passing RATA results are obtained, Norlite will prepare a permit modification similar to the Kiln 1 permit modification for submittal and approval for Kiln 2.

Norlite has been working with the DEC to improve LGF delivery and handling at the kilns to address these types of cutoffs. In April 2013, the DEC conditionally approved Norlite's plan to remove the minimum LGF Line Pressure requirement, allow a positive displacement pump to be used for fuel flow control, and allow the use of a recirculation line for use during times when off LGF. The DEC also requested a six month study be conducted without a minimum LGF Line Pressure requirement. The study was started on May 01, 2103 and completed on October 31, 2013. Norlite conducted an extensive search for a positive displacement pump which would allow variable speed control, have tight pump tolerance, and have suitable reliability for long term use. The results of the six month study which summarized over 4 million lines of operational data between the two kilns was submitted to the DEC on December 5, 2013. Based from the results of the six month study, Norlite feels the data supports the removal of the minimum LGF Line Pressure requirement. Norlite has concluded that a positive displacement pump which meets all the needed criteria does not exist. As stated previously, Norlite has acquired the assistance of a process engineering firm to assist in the search for a suitable positive displacement pump and conduct an overall review of the entire kiln feed system to provide a proposal for improving the kiln fuel feed system. The process engineering firm has been supplied with facility drawings, had several discussions with Norlite personnel, and taken a facility tour to better understand the facility operations as they relate to fuel delivery at the kilns. Norlite submitted a proposal provided by SPEC Engineering to the DEC on December 31, 2013 for review and approval. The proposal was to use an automated control loop to control pressures and fuel flow rates at the kilns. On January 13, 2014, the DEC approved the overall concept of the proposal with the requirement that additional engineering specifications be provided by certain dates for ultimate approval of the entire project.

Norlite and SPEC Engineering have completed an extensive hydraulic study of the entire LGF Fuel delivery system to ensure that proper velocities can be maintained throughout the piping system to prevent material buildup and keep the LGF homogeneously mixed. Norlite and SPEC Engineering have also meet with the DEC or spoke with the DEC on the phone several times to go over the hydraulic study as well as keep the Department up to date on the overall progress of the project. Norlite and SPEC Engineering have finalized the engineering design of the overall kiln fuel delivery system, including 3D drawings of the piping to help visualize the overall project. Norlite and SPEC have confirmed their commitment to ensuring the kiln fuel delivery system operates as expected with as few troubleshooting issues as possible. For this to occur, additional engineering was needed during the design phase. Norlite met with the DEC in early April to go over the fuel piping layout and other related engineering design aspects. SPEC has finalized the bid packages which Norlite and Tradebe Engineering have approved and released for bid. Norlite expects to select a contractor to complete the piping work by November 17, 2014. Once a contractor has been selected, Norlite has a timeframe which sees the project completed for both kilns by the end of February 2015. An engineering package has been supplied to the NYSDEC for review and approval. While the DEC reviews the engineering design, Norlite will continue with procurement and installation.

All of the malfunctions that occurred were consistent with our Startup, Shutdown and Malfunction Plan (SSMP). As approved by the NYSDEC on February 6, 2006, these reports are being sent electronically.

Should you have any questions regarding this letter, please contact me at (518) 235-0401 or email at: tom.vanvranken@tradebe.com.

Sincerely,

Thomas Van Vranken

Thomas Van Vranken
Environmental Manager

Attachments

ecc: Don Spencer, NYDEC – R4 w/attachments
Thomas Killeen, NYSDEC – CO w/attachments
Joseph Hadersbeck, NYSDEC – R4w/attachments
Jim Quinn, NYSDEC – R4 w/attachments
Tita LaGrimas – Tradebe

NORLITE, LLC

MACT EXCEEDANCE REPORT - KILN 1

10/24/14 - 11/14/14

Start Date	Start Time	End Date	End Time	Downtime	#	Event	Cause	Parameter	Limit	Corrective Action
10/25/2014	3:30:31	10/25/2014	4:23:26	0:52:55	257	Malfunction	Instantaneous Instrument Setpoint Was Reached for Stack Gas Flow Rate Span Due to the Optical Flow Sensor Lens Becoming Coated With A Film, Causing A Loss of Signal	Stack Gas Flow Rate	Span	I&E Cleaned the Lenses to Establish Proper Signal Strength
10/26/2014	21:55:48	10/26/2014	22:36:36	0:40:48	258	Malfunction	Instantaneous Instrument Setpoint Was Reached for Stack Gas Flow Rate Span Due to the Optical Flow Sensor Lens Becoming Coated With A Film, Causing A Loss of Signal	Stack Gas Flow Rate	Span	I&E Cleaned the Lenses to Establish Proper Signal Strength
10/31/2014	8:22:50	10/31/2014	8:50:22	0:27:32	259	Malfunction	Instantaneous Instrument Setpoint Was Reached for Stack Gas Flow Rate Span Due to the Optical Flow Sensor Lens Becoming Coated With A Film, Causing A Loss of Signal	Stack Gas Flow Rate	Span	I&E Cleaned the Lenses to Establish Proper Signal Strength
11/3/2014	8:11:44	11/3/2014	8:15:44	0:04:00	260	Malfunction	Instantaneous Instrument Setpoint Was Reached for Rear Chamber Pressure Due to A Crack Forming In The Primary Air Fan Housing Which Caused A Reduction In the Fan Efficiency	Back Chamber Pressure, 1 Second Delay	Opl	The Fan Housing Was Replaced on 11/03/14
11/3/2014	13:13:12	11/3/2014	15:19:00	2:05:48	261	Malfunction	Instantaneous Instrument Setpoint Was Reached for Rear Chamber Pressure Due to A Crack Forming In The Primary Air Fan Housing Which Caused A Reduction In the Fan Efficiency	Back Chamber Pressure, 1 Second Delay	Opl	The Fan Housing Was Replaced on 11/03/14
11/6/2014	6:57:26	11/6/2014	7:20:08	0:22:42	262	Malfunction	Instantaneous Instrument Setpoint Was Reached for Stack Gas Flow Rate Span Due to the Optical Flow Sensor Lens Becoming Coated With A Film, Causing A Loss of Signal	Stack Gas Flow Rate	Span	I&E Cleaned the Lenses to Establish Proper Signal Strength
11/9/2014	9:13:37	11/9/2014	10:21:15	1:07:38	263	Malfunction	Instantaneous Instrument Setpoint Was Reached for Stack Gas Flow Rate Span Due to the Optical Flow Sensor Lens Becoming Coated With A Film, Causing A Loss of Signal	Stack Gas Flow Rate	Span	I&E Cleaned the Lenses to Establish Proper Signal Strength

NORLITE, LLC
MACT EXCEEDANCE REPORT - KILN 2
10/24/14 - 11/14/14

Start Date	Start Time	End Date	End Time	Downtime	#	Event	Cause	Parameter	Limit	Corrective Action
10/25/2014	0:52:53	10/25/2014	0:53:41	0:00:48	372	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Water Droplets From the Mist Pad Hitting the Probe	Stack Gas Flow Rate	Span	Ultimately The Kiln Was Shutdown on 11/03/14 for Scrubber Inspection & Maintenance
10/25/2014	5:01:52	10/25/2014	5:07:18	0:05:26	373	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Water Droplets From the Mist Pad Hitting the Probe	Stack Gas Flow Rate	Span	Ultimately The Kiln Was Shutdown on 11/03/14 for Scrubber Inspection & Maintenance
10/25/2014	5:09:19	10/25/2014	5:09:58	0:00:39	374	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Water Droplets From the Mist Pad Hitting the Probe	Stack Gas Flow Rate	Span	Ultimately The Kiln Was Shutdown on 11/03/14 for Scrubber Inspection & Maintenance
10/25/2014	5:13:14	10/25/2014	6:20:37	1:07:23	375	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Water Droplets From the Mist Pad Hitting the Probe	Stack Gas Flow Rate	Span	Ultimately The Kiln Was Shutdown on 11/03/14 for Scrubber Inspection & Maintenance
10/25/2014	6:32:56	10/25/2014	6:33:44	0:00:48	376	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Water Droplets From the Mist Pad Hitting the Probe	Stack Gas Flow Rate	Span	Ultimately The Kiln Was Shutdown on 11/03/14 for Scrubber Inspection & Maintenance
10/25/2014	6:33:54	10/25/2014	10:35:16	4:01:22	377	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Water Droplets From the Mist Pad Hitting the Probe	Stack Gas Flow Rate	Span	Ultimately The Kiln Was Shutdown on 11/03/14 for Scrubber Inspection & Maintenance
10/25/2014	10:42:57	10/25/2014	11:23:10	0:40:13	378	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Water Droplets From the Mist Pad Hitting the Probe	Stack Gas Flow Rate	Span	Ultimately The Kiln Was Shutdown on 11/03/14 for Scrubber Inspection & Maintenance
10/25/2014	11:32:56	10/25/2014	11:43:35	0:10:39	379	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Water Droplets From the Mist Pad Hitting the Probe	Stack Gas Flow Rate	Span	Ultimately The Kiln Was Shutdown on 11/03/14 for Scrubber Inspection & Maintenance
10/25/2014	12:37:26	10/25/2014	12:37:48	0:00:22	380	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Water Droplets From the Mist Pad Hitting the Probe	Stack Gas Flow Rate	Span	Ultimately The Kiln Was Shutdown on 11/03/14 for Scrubber Inspection & Maintenance
10/25/2014	12:42:18	10/25/2014	12:43:39	0:01:21	381	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Water Droplets From the Mist Pad Hitting the Probe	Stack Gas Flow Rate	Span	Ultimately The Kiln Was Shutdown on 11/03/14 for Scrubber Inspection & Maintenance
10/25/2014	14:50:32	10/25/2014	14:51:46	0:01:14	382	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Water Droplets From the Mist Pad Hitting the Probe	Stack Gas Flow Rate	Span	Ultimately The Kiln Was Shutdown on 11/03/14 for Scrubber Inspection & Maintenance
10/25/2014	15:03:59	10/25/2014	15:04:57	0:00:58	383	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Water Droplets From the Mist Pad Hitting the Probe	Stack Gas Flow Rate	Span	Ultimately The Kiln Was Shutdown on 11/03/14 for Scrubber Inspection & Maintenance

NORLITE, LLC
MACT EXCEEDANCE REPORT - KILN 2
10/24/14 - 11/14/14

Start Date	Start Time	End Date	End Time	Downtime	#	Event	Cause	Parameter	Limit	Corrective Action
10/25/2014	15:25:11	10/25/2014	15:25:58	0:00:47	384	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Water Droplets From the Mist Pad Hitting the Probe	Stack Gas Flow Rate	Span	Ultimately The Kiln Was Shutdown on 11/03/14 for Scrubber Inspection & Maintenance
10/25/2014	17:24:41	10/25/2014	17:37:29	0:12:48	385	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Water Droplets From the Mist Pad Hitting the Probe	Stack Gas Flow Rate	Span	Ultimately The Kiln Was Shutdown on 11/03/14 for Scrubber Inspection & Maintenance
10/25/2014	18:51:54	10/25/2014	19:05:28	0:13:34	386	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Water Droplets From the Mist Pad Hitting the Probe	Stack Gas Flow Rate	Span	Ultimately The Kiln Was Shutdown on 11/03/14 for Scrubber Inspection & Maintenance
10/25/2014	20:34:34	10/25/2014	20:35:51	0:01:17	387	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Water Droplets From the Mist Pad Hitting the Probe	Stack Gas Flow Rate	Span	Ultimately The Kiln Was Shutdown on 11/03/14 for Scrubber Inspection & Maintenance
10/25/2014	20:45:44	10/25/2014	20:47:33	0:01:49	388	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Water Droplets From the Mist Pad Hitting the Probe	Stack Gas Flow Rate	Span	Ultimately The Kiln Was Shutdown on 11/03/14 for Scrubber Inspection & Maintenance
10/25/2014	22:25:09	10/25/2014	22:29:57	0:04:48	389	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Water Droplets From the Mist Pad Hitting the Probe	Stack Gas Flow Rate	Span	Ultimately The Kiln Was Shutdown on 11/03/14 for Scrubber Inspection & Maintenance
10/25/2014	23:19:47	10/25/2014	23:23:25	0:03:38	390	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Water Droplets From the Mist Pad Hitting the Probe	Stack Gas Flow Rate	Span	Ultimately The Kiln Was Shutdown on 11/03/14 for Scrubber Inspection & Maintenance
10/25/2014	23:26:17	10/25/2014	23:52:21	0:26:04	391	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Water Droplets From the Mist Pad Hitting the Probe	Stack Gas Flow Rate	Span	Ultimately The Kiln Was Shutdown on 11/03/14 for Scrubber Inspection & Maintenance
10/25/2014	23:55:25	10/26/2014	0:27:31	0:32:05	392	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Water Droplets From the Mist Pad Hitting the Probe	Stack Gas Flow Rate	Span	Ultimately The Kiln Was Shutdown on 11/03/14 for Scrubber Inspection & Maintenance
10/26/2014	1:06:29	10/26/2014	1:45:01	0:38:32	393	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Water Droplets From the Mist Pad Hitting the Probe	Stack Gas Flow Rate	Span	Ultimately The Kiln Was Shutdown on 11/03/14 for Scrubber Inspection & Maintenance
10/26/2014	6:17:47	10/26/2014	11:58:48	5:41:01	394	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Water Droplets From the Mist Pad Hitting the Probe	Stack Gas Flow Rate	Span	Ultimately The Kiln Was Shutdown on 11/03/14 for Scrubber Inspection & Maintenance
10/26/2014	12:38:54	10/26/2014	13:05:07	0:26:13	395	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Water Droplets From the Mist Pad Hitting the Probe	Stack Gas Flow Rate	Span	Ultimately The Kiln Was Shutdown on 11/03/14 for Scrubber Inspection & Maintenance

NORLITE, LLC
MACT EXCEEDANCE REPORT - KILN 2
10/24/14 - 11/14/14

Start Date	Start Time	End Date	End Time	Downtime	#	Event	Cause	Parameter	Limit	Corrective Action
10/26/2014	13:31:16	10/26/2014	13:46:25	0:15:09	396	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Water Droplets From the Mist Pad Hitting the Probe	Stack Gas Flow Rate	Span	Ultimately The Kiln Was Shutdown on 11/03/14 for Scrubber Inspection & Maintenance
10/26/2014	14:23:48	10/26/2014	14:47:22	0:23:34	397	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Water Droplets From the Mist Pad Hitting the Probe	Stack Gas Flow Rate	Span	Ultimately The Kiln Was Shutdown on 11/03/14 for Scrubber Inspection & Maintenance
10/26/2014	14:55:39	10/26/2014	15:18:34	0:22:55	398	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Water Droplets From the Mist Pad Hitting the Probe	Stack Gas Flow Rate	Span	Ultimately The Kiln Was Shutdown on 11/03/14 for Scrubber Inspection & Maintenance
10/27/2014	14:52:03	10/27/2014	15:39:12	0:47:09	399	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Water Droplets From the Mist Pad Hitting the Probe	Stack Gas Flow Rate	Span	Ultimately The Kiln Was Shutdown on 11/03/14 for Scrubber Inspection & Maintenance
10/27/2014	16:00:13	10/27/2014	16:20:18	0:20:05	400	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Water Droplets From the Mist Pad Hitting the Probe	Stack Gas Flow Rate	Span	Ultimately The Kiln Was Shutdown on 11/03/14 for Scrubber Inspection & Maintenance
10/27/2014	16:35:00	10/27/2014	16:35:20	0:00:20	401	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Water Droplets From the Mist Pad Hitting the Probe	Stack Gas Flow Rate	Span	Ultimately The Kiln Was Shutdown on 11/03/14 for Scrubber Inspection & Maintenance
10/27/2014	16:38:55	10/27/2014	19:27:07	2:48:12	402	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Water Droplets From the Mist Pad Hitting the Probe	Stack Gas Flow Rate	Span	Ultimately The Kiln Was Shutdown on 11/03/14 for Scrubber Inspection & Maintenance
10/28/2014	17:53:50	10/28/2014	17:58:54	0:05:04	403	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Water Droplets From the Mist Pad Hitting the Probe	Stack Gas Flow Rate	Span	Ultimately The Kiln Was Shutdown on 11/03/14 for Scrubber Inspection & Maintenance
10/28/2014	19:06:25	10/28/2014	19:10:46	0:04:21	404	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Water Droplets From the Mist Pad Hitting the Probe	Stack Gas Flow Rate	Span	Ultimately The Kiln Was Shutdown on 11/03/14 for Scrubber Inspection & Maintenance
10/29/2014	11:27:49	10/29/2014	11:40:31	0:12:42	405	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Water Droplets From the Mist Pad Hitting the Probe	Stack Gas Flow Rate	Span	Ultimately The Kiln Was Shutdown on 11/03/14 for Scrubber Inspection & Maintenance
10/29/2014	11:44:04	10/29/2014	11:59:11	0:15:07	406	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Water Droplets From the Mist Pad Hitting the Probe	Stack Gas Flow Rate	Span	Ultimately The Kiln Was Shutdown on 11/03/14 for Scrubber Inspection & Maintenance
10/30/2014	3:18:54	10/30/2014	3:22:17	0:03:23	407	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Water Droplets From the Mist Pad Hitting the Probe	Stack Gas Flow Rate	Span	Ultimately The Kiln Was Shutdown on 11/03/14 for Scrubber Inspection & Maintenance

NORLITE, LLC
MACT EXCEEDANCE REPORT - KILN 2
10/24/14 - 11/14/14

Start Date	Start Time	End Date	End Time	Downtime	#	Event	Cause	Parameter	Limit	Corrective Action
10/30/2014	3:23:58	10/30/2014	6:40:44	3:16:46	408	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Water Droplets From the Mist Pad Hitting the Probe	Stack Gas Flow Rate	Span	Ultimately The Kiln Was Shutdown on 11/03/14 for Scrubber Inspection & Maintenance
10/30/2014	11:10:36	10/30/2014	11:12:38	0:02:02	409	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Water Droplets From the Mist Pad Hitting the Probe	Stack Gas Flow Rate	Span	Ultimately The Kiln Was Shutdown on 11/03/14 for Scrubber Inspection & Maintenance
10/30/2014	17:52:36	10/30/2014	18:16:37	0:24:01	410	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Water Droplets From the Mist Pad Hitting the Probe	Stack Gas Flow Rate	Span	Ultimately The Kiln Was Shutdown on 11/03/14 for Scrubber Inspection & Maintenance
10/31/2014	6:42:48	10/31/2014	6:43:44	0:00:56	411	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Water Droplets From the Mist Pad Hitting the Probe	Stack Gas Flow Rate	Span	Ultimately The Kiln Was Shutdown on 11/03/14 for Scrubber Inspection & Maintenance
10/31/2014	7:20:19	10/31/2014	7:23:14	0:02:55	412	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Water Droplets From the Mist Pad Hitting the Probe	Stack Gas Flow Rate	Span	Ultimately The Kiln Was Shutdown on 11/03/14 for Scrubber Inspection & Maintenance
10/31/2014	7:37:54	10/31/2014	10:21:11	2:43:17	413	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Water Droplets From the Mist Pad Hitting the Probe	Stack Gas Flow Rate	Span	Ultimately The Kiln Was Shutdown on 11/03/14 for Scrubber Inspection & Maintenance
10/31/2014	15:15:22	10/31/2014	15:17:10	0:01:48	414	Malfunction	The Operators Were Controlling Fuel Flow Using Valve Which Caused a Fuel Surge to Occur, Affecting the Frontend Differential Kiln Pressure	Front Kiln Pressure, 3 Second Delay	Opl	Third Party Process Engineers Are Reviewing the Feed System to Provide Operational Improvements
10/31/2014	23:00:50	10/31/2014	23:21:25	0:20:35	415	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Water Droplets From the Mist Pad Hitting the Probe	Stack Gas Flow Rate	Span	Ultimately The Kiln Was Shutdown on 11/03/14 for Scrubber Inspection & Maintenance
10/31/2014	23:48:43	10/31/2014	23:57:23	0:08:40	416	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Water Droplets From the Mist Pad Hitting the Probe	Stack Gas Flow Rate	Span	Ultimately The Kiln Was Shutdown on 11/03/14 for Scrubber Inspection & Maintenance
11/1/2014	0:39:40	11/1/2014	0:40:11	0:00:31	417	Malfunction	The Operators Were Controlling Fuel Flow Using Valve Which Caused a Fuel Surge to Occur, Affecting the Frontend Differential Kiln Pressure	Front Kiln Pressure, 1 Second Delay	Opl	Third Party Process Engineers Are Reviewing the Feed System to Provide Operational Improvements
11/1/2014	1:04:23	11/1/2014	1:04:59	0:00:36	418	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Water Droplets From the Mist Pad Hitting the Probe As the MMV Was Partially Plugged and Causing Water Buildup	Stack Gas Flow Rate	Span	The Kiln Was Shutdown Early in the Morning on 11/03/14 for Scrubber Maintenance
11/1/2014	1:58:55	11/1/2014	2:35:31	0:36:36	419	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Water Droplets From the Mist Pad Hitting the Probe As the MMV Was Partially Plugged and Causing Water Buildup	Stack Gas Flow Rate	Span	The Kiln Was Shutdown Early in the Morning on 11/03/14 for Scrubber Maintenance

NORLITE, LLC

MACT EXCEEDANCE REPORT - KILN 2

10/24/14 - 11/14/14

Start Date	Start Time	End Date	End Time	Downtime	#	Event	Cause	Parameter	Limit	Corrective Action
11/1/2014	2:49:42	11/1/2014	2:50:45	0:01:03	420	Malfunction	The Operators Were Controlling Fuel Flow Using Valve Which Caused a Fuel Surge to Occur, Affecting the Frontend Differential Kiln Pressure	Front Kiln Pressure, 1 Second Delay	Opl	Third Party Process Engineers Are Reviewing the Feed System to Provide Operational Improvements
11/1/2014	2:57:21	11/1/2014	2:57:52	0:00:31	421	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Water Droplets From the Mist Pad Hitting the Probe As the MMV Was Partially Plugged and Causing Water Buildup	Stack Gas Flow Rate	Span	The Kiln Was Shutdown Early in the Morning on 11/03/14 for Scrubber Maintenance
11/1/2014	3:05:34	11/1/2014	5:55:38	2:50:04	422	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Water Droplets From the Mist Pad Hitting the Probe As the MMV Was Partially Plugged and Causing Water Buildup	Stack Gas Flow Rate	Span	The Kiln Was Shutdown Early in the Morning on 11/03/14 for Scrubber Maintenance
11/1/2014	6:20:48	11/1/2014	6:21:16	0:00:28	423	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Water Droplets From the Mist Pad Hitting the Probe As the MMV Was Partially Plugged and Causing Water Buildup	Stack Gas Flow Rate	Span	The Kiln Was Shutdown Early in the Morning on 11/03/14 for Scrubber Maintenance
11/1/2014	12:33:20	11/1/2014	12:34:08	0:00:48	424	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Water Droplets From the Mist Pad Hitting the Probe As the MMV Was Partially Plugged and Causing Water Buildup	Stack Gas Flow Rate	Span	The Kiln Was Shutdown Early in the Morning on 11/03/14 for Scrubber Maintenance
11/1/2014	12:56:13	11/1/2014	12:56:38	0:00:25	425	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Water Droplets From the Mist Pad Hitting the Probe As the MMV Was Partially Plugged and Causing Water Buildup	Stack Gas Flow Rate	Span	The Kiln Was Shutdown Early in the Morning on 11/03/14 for Scrubber Maintenance
11/1/2014	13:00:20	11/1/2014	13:01:08	0:00:48	426	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Water Droplets From the Mist Pad Hitting the Probe As the MMV Was Partially Plugged and Causing Water Buildup	Stack Gas Flow Rate	Span	The Kiln Was Shutdown Early in the Morning on 11/03/14 for Scrubber Maintenance
11/1/2014	13:06:29	11/1/2014	13:08:30	0:02:01	427	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Water Droplets From the Mist Pad Hitting the Probe As the MMV Was Partially Plugged and Causing Water Buildup	Stack Gas Flow Rate	Span	The Kiln Was Shutdown Early in the Morning on 11/03/14 for Scrubber Maintenance
11/1/2014	20:36:46	11/1/2014	23:14:20	2:37:34	428	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Water Droplets From the Mist Pad Hitting the Probe As the MMV Was Partially Plugged and Causing Water Buildup	Stack Gas Flow Rate	Span	The Kiln Was Shutdown Early in the Morning on 11/03/14 for Scrubber Maintenance
11/1/2014	23:23:45	11/1/2014	23:48:47	0:25:02	429	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Water Droplets From the Mist Pad Hitting the Probe As the MMV Was Partially Plugged and Causing Water Buildup	Stack Gas Flow Rate	Span	The Kiln Was Shutdown Early in the Morning on 11/03/14 for Scrubber Maintenance
11/1/2014	23:50:39	11/2/2014	2:43:37	2:52:57	430	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Water Droplets From the Mist Pad Hitting the Probe As the MMV Was Partially Plugged and Causing Water Buildup	Stack Gas Flow Rate	Span	The Kiln Was Shutdown Early in the Morning on 11/03/14 for Scrubber Maintenance
11/2/2014	2:54:08	11/2/2014	2:54:32	0:00:24	431	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Water Droplets From the Mist Pad Hitting the Probe As the MMV Was Partially Plugged and Causing Water Buildup	Stack Gas Flow Rate	Span	The Kiln Was Shutdown Early in the Morning on 11/03/14 for Scrubber Maintenance

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11/2/2014	2:54:54	11/2/2014	3:27:27	0:32:33	432	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Water Droplets From the Mist Pad Hitting the Probe As the MMV Was Partially Plugged and Causing Water Buildup	Stack Gas Flow Rate	Span	The Kiln Was Shutdown Early in the Morning on 11/03/14 for Scrubber Maintenance
11/2/2014	3:42:53	11/2/2014	3:43:36	0:00:43	433	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Water Droplets From the Mist Pad Hitting the Probe As the MMV Was Partially Plugged and Causing Water Buildup	Stack Gas Flow Rate	Span	The Kiln Was Shutdown Early in the Morning on 11/03/14 for Scrubber Maintenance
11/2/2014	7:04:11	11/2/2014	7:25:16	0:21:05	434	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Water Droplets From the Mist Pad Hitting the Probe As the MMV Was Partially Plugged and Causing Water Buildup	Stack Gas Flow Rate	Span	The Kiln Was Shutdown Early in the Morning on 11/03/14 for Scrubber Maintenance
11/2/2014	7:58:42	11/2/2014	8:22:50	0:24:08	435	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Water Droplets From the Mist Pad Hitting the Probe As the MMV Was Partially Plugged and Causing Water Buildup	Stack Gas Flow Rate	Span	The Kiln Was Shutdown Early in the Morning on 11/03/14 for Scrubber Maintenance
11/2/2014	8:27:03	11/2/2014	9:12:37	0:45:34	436	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Water Droplets From the Mist Pad Hitting the Probe As the MMV Was Partially Plugged and Causing Water Buildup	Stack Gas Flow Rate	Span	The Kiln Was Shutdown Early in the Morning on 11/03/14 for Scrubber Maintenance
11/2/2014	18:32:53	11/2/2014	18:38:57	0:06:04	437	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Water Droplets From the Mist Pad Hitting the Probe As the MMV Was Partially Plugged and Causing Water Buildup	Stack Gas Flow Rate	Span	The Kiln Was Shutdown Early in the Morning on 11/03/14 for Scrubber Maintenance
11/2/2014	23:22:18	11/2/2014	23:28:50	0:06:32	438	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Water Droplets From the Mist Pad Hitting the Probe As the MMV Was Partially Plugged and Causing Water Buildup	Stack Gas Flow Rate	Span	The Kiln Was Shutdown Early in the Morning on 11/03/14 for Scrubber Maintenance
11/2/2014	23:56:06	11/2/2014	23:56:28	0:00:22	439	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Water Droplets From the Mist Pad Hitting the Probe As the MMV Was Partially Plugged and Causing Water Buildup	Stack Gas Flow Rate	Span	The Kiln Was Shutdown Early in the Morning on 11/03/14 for Scrubber Maintenance
11/3/2014	0:27:30	11/3/2014	0:32:40	0:05:10	440	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Water Droplets From the Mist Pad Hitting the Probe As the MMV Was Partially Plugged and Causing Water Buildup	Stack Gas Flow Rate	Span	The Kiln Was Shutdown Early in the Morning on 11/03/14 for Scrubber Maintenance
11/3/2014	0:36:01	11/3/2014	0:58:40	0:22:39	441	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Water Droplets From the Mist Pad Hitting the Probe As the MMV Was Partially Plugged and Causing Water Buildup	Stack Gas Flow Rate	Span	The Kiln Was Shutdown Early in the Morning on 11/03/14 for Scrubber Maintenance
11/3/2014	1:02:13	11/3/2014	1:02:43	0:00:30	442	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Water Droplets From the Mist Pad Hitting the Probe As the MMV Was Partially Plugged and Causing Water Buildup	Stack Gas Flow Rate	Span	The Kiln Was Shutdown Early in the Morning on 11/03/14 for Scrubber Maintenance
11/4/2014	22:07:04	11/4/2014	22:07:40	0:00:36	443	Malfunction	The Operators Were Controlling Fuel Flow Using Valve Which Caused a Fuel Surge to Occur, Affecting the Frontend Differential Kiln Pressure	Front Kiln Pressure, 1 Second Delay	Opl	Third Party Process Engineers Are Reviewing the Feed System to Provide Operational Improvements

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Start Date	Start Time	End Date	End Time	Downtime	#	Event	Cause	Parameter	Limit	Corrective Action
11/5/2014	21:09:49	11/5/2014	21:17:00	0:07:11	444	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Water Droplets From the Mist Pad Hitting the Probe	Stack Gas Flow Rate	Span	The ID Fan Speed Was Decreased to Help Prevent Water Droplets From Hitting the Probe
11/6/2014	7:42:57	11/6/2014	7:49:12	0:06:15	445	Malfunction	The Operators Were Controlling Fuel Flow Using Valve Which Caused a Fuel Surge to Occur, Affecting the Frontend Differential Kiln Pressure	Front Kiln Pressure, 1 Second Delay	Opl	Third Party Process Engineers Are Reviewing the Feed System to Provide Operational Improvements
11/6/2014	8:12:34	11/6/2014	8:17:38	0:05:04	446	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Baghouse Dust Coating the Probe Causing False High Readings	Stack Gas Flow Rate	Span	I&E Cleaned the Probe. Ultimately The Kilns Was Shutdown on 11/10/14 for Baghouse Repairs and Scrubber Cleaning
11/6/2014	8:21:16	11/6/2014	8:46:16	0:25:00	447	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Baghouse Dust Coating the Probe Causing False High Readings	Stack Gas Flow Rate	Span	I&E Cleaned the Probe. Ultimately The Kilns Was Shutdown on 11/10/14 for Baghouse Repairs and Scrubber Cleaning
11/6/2014	10:01:27	11/6/2014	10:02:11	0:00:44	448	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Baghouse Dust Coating the Probe Causing False High Readings	Stack Gas Flow Rate	Span	I&E Cleaned the Probe. Ultimately The Kilns Was Shutdown on 11/10/14 for Baghouse Repairs and Scrubber Cleaning
11/6/2014	13:34:01	11/6/2014	13:41:10	0:07:09	449	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Baghouse Dust Coating the Probe Causing False High Readings	Stack Gas Flow Rate	Span	I&E Cleaned the Probe. Ultimately The Kilns Was Shutdown on 11/10/14 for Baghouse Repairs and Scrubber Cleaning
11/6/2014	13:49:48	11/6/2014	16:32:14	2:42:26	450	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Baghouse Dust Coating the Probe Causing False High Readings	Stack Gas Flow Rate	Span	I&E Cleaned the Probe. Ultimately The Kilns Was Shutdown on 11/10/14 for Baghouse Repairs and Scrubber Cleaning
11/6/2014	16:38:45	11/7/2014	2:17:31	9:38:45	451	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Baghouse Dust Coating the Probe Causing False High Readings	Stack Gas Flow Rate	Span	I&E Cleaned the Probe. Ultimately The Kilns Was Shutdown on 11/10/14 for Baghouse Repairs and Scrubber Cleaning
11/7/2014	6:16:13	11/7/2014	6:16:39	0:00:26	452	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Baghouse Dust Coating the Probe Causing False High Readings	Stack Gas Flow Rate	Span	I&E Cleaned the Probe. Ultimately The Kilns Was Shutdown on 11/10/14 for Baghouse Repairs and Scrubber Cleaning
11/7/2014	19:56:44	11/7/2014	21:07:48	1:11:04	453	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Baghouse Dust Coating the Probe Causing False High Readings	Stack Gas Flow Rate	Span	I&E Cleaned the Probe. Ultimately The Kilns Was Shutdown on 11/10/14 for Baghouse Repairs and Scrubber Cleaning

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Start Date	Start Time	End Date	End Time	Downtime	#	Event	Cause	Parameter	Limit	Corrective Action
11/7/2014	21:22:15	11/8/2014	1:02:08	3:39:52	454	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Baghouse Dust Coating the Probe Causing False High Readings	Stack Gas Flow Rate	Span	I&E Cleaned the Probe. Ultimately The Kilns Was Shutdown on 11/10/14 for Baghouse Repairs and Scrubber Cleaning
11/8/2014	18:13:25	11/8/2014	18:20:15	0:06:50	455	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Baghouse Dust Coating the Probe Causing False High Readings	Stack Gas Flow Rate	Span	I&E Cleaned the Probe. Ultimately The Kilns Was Shutdown on 11/10/14 for Baghouse Repairs and Scrubber Cleaning
11/8/2014	19:03:10	11/9/2014	0:11:57	5:08:46	456	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Baghouse Dust Coating the Probe Causing False High Readings	Stack Gas Flow Rate	Span	I&E Cleaned the Probe. Ultimately The Kilns Was Shutdown on 11/10/14 for Baghouse Repairs and Scrubber Cleaning
11/9/2014	0:19:32	11/9/2014	0:20:14	0:00:42	457	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Baghouse Dust Coating the Probe Causing False High Readings	Stack Gas Flow Rate	Span	I&E Cleaned the Probe. Ultimately The Kilns Was Shutdown on 11/10/14 for Baghouse Repairs and Scrubber Cleaning
11/9/2014	0:24:03	11/9/2014	0:32:47	0:08:44	458	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Baghouse Dust Coating the Probe Causing False High Readings	Stack Gas Flow Rate	Span	I&E Cleaned the Probe. Ultimately The Kilns Was Shutdown on 11/10/14 for Baghouse Repairs and Scrubber Cleaning
11/9/2014	2:15:39	11/9/2014	2:16:11	0:00:32	459	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Baghouse Dust Coating the Probe Causing False High Readings	Stack Gas Flow Rate	Span	I&E Cleaned the Probe. Ultimately The Kilns Was Shutdown on 11/10/14 for Baghouse Repairs and Scrubber Cleaning
11/9/2014	2:16:22	11/9/2014	2:16:52	0:00:30	460	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Baghouse Dust Coating the Probe Causing False High Readings	Stack Gas Flow Rate	Span	I&E Cleaned the Probe. Ultimately The Kilns Was Shutdown on 11/10/14 for Baghouse Repairs and Scrubber Cleaning
11/9/2014	2:22:14	11/9/2014	2:38:56	0:16:42	461	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Baghouse Dust Coating the Probe Causing False High Readings	Stack Gas Flow Rate	Span	I&E Cleaned the Probe. Ultimately The Kilns Was Shutdown on 11/10/14 for Baghouse Repairs and Scrubber Cleaning
11/9/2014	5:57:39	11/9/2014	5:58:12	0:00:33	462	Malfunction	The Operators Were Controlling Fuel Flow Using Valve Which Caused a Fuel Surge to Occur, Affecting the Frontend Differential Kiln Pressure	Front Kiln Pressure, 1 Second Delay	Span	Third Party Process Engineers Are Reviewing the Feed System to Provide Operational Improvements
11/13/2014	19:29:38	11/13/2014	19:30:03	0:00:25	463	Malfunction	The Operators Were Controlling Fuel Flow Using Valve Which Caused a Fuel Surge to Occur, Affecting the Frontend Differential Kiln Pressure / Removed Ball From Cooler	Front Kiln Pressure, 1 Second Delay	Opl	Third Party Process Engineers Are Reviewing the Feed System to Provide Operational Improvements

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Start Date	Start Time	End Date	End Time	Downtime	#	Event	Cause	Parameter	Limit	Corrective Action
11/13/2014	23:24:39	11/13/2014	23:24:57	0:00:18	464	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Water Droplets From the Mist Pad Hitting the Probe	Stack Gas Flow Rate	Span	The ID Fan Speed Was Decreased to Help Prevent Water Droplets From Hitting the Probe
11/13/2014	23:27:13	11/13/2014	23:29:48	0:02:35	465	Malfunction	Instantaneous Upper Instrument Setpoint Reached for Stack Gas Span Due to Water Droplets From the Mist Pad Hitting the Probe	Stack Gas Flow Rate	Span	The ID Fan Speed Was Decreased to Help Prevent Water Droplets From Hitting the Probe